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Electric Vehicle Infrastructure in Massachusetts

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Conclusions/Recommendations

- Massachusetts will need 12,000-15,000 public charging stations or battery switching stations installed in order to support 8,000-10,000 electric vehicles that are predicted to be on the road in Massachusetts by the year 2020.
- Public stations should be installed in areas such as commuter rail/MBTA parking lots, shopping malls, and major businesses.
- The state should look into joining Project Get Ready and Charge Point America to receive educated assistance for building infrastructure.
- Massachusetts should keep the tax incentives on PHEVs and EVs.
- Other countries and regions of the world are switching from gasoline-fueled cars to electric vehicles.
- Installing battery switching stations and charging stations is cheaper than installing gas stations.
- The federal government provides a $7500 tax credit for electric vehicles.

Survey Results

If there were a significant increase in electric vehicle infrastructure, I would look into purchasing an electric vehicle.

EV Sales Projections

Survey Results

Methods/Process

- Surveyed 554 people from WPI and across the country.
- Analyzed the market trends of PHEVs and extrapolated the findings to estimate the predicted number of EVs on the road by 2020.
- Interviewed Linda Benevides (EOEEA) to find out what is currently happening in MA. in terms of building EV infrastructure.
- Compared and contrasted gas stations to charging stations to battery switching stations.

Summary

- Electric vehicles will significantly penetrate the market unless there is a supporting infrastructure.
- The impact the proposal may have is that people will switch from gasoline-fueled cars to electric vehicles.
- Research involved obtaining public opinion, analyzing market trends, an interview with a state official, and comparing data on gas stations, charging stations and battery switching stations.
- Between 8,000 and 10,000 EVs will be on the road by the year 2020 in Massachusetts, and that in order to support that many vehicles, there needs to be 12,000-15,000 public electric vehicle refueling stations in the form of charging stations or battery switching stations.
- Battery switching stations and charging stations will be successful in metropolitan areas. These stations will reduce the "range anxiety" most people worry about when buying an electric car.

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References


